

Title of the Project: Using OER to Improve Parents' Knowledge and Abilities to Work with Early Aged Children

Implementing Institution: "Educational Wave" NGO

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Foreword

With growth of technology development and communication tools, use of Internet is getting increased dramatically in the country. Thus, everybody can get a wide range of information from the Open Educational Resource as well as they have achieved at certain level by using them in their lives and works.

Using Internet in Mongolia has been getting more popular in recent years. According to the statistics, number of Internet users reached to 709 625 people (around 30.6%) of total population which belongs to over 6 ages in 2010. Of these, 49.3% of the total Ulaanbaatar population belong to over 6 ages are Internet users [1].

Children constitute a considerable portion of the Mongolian population. As time went by, number of early-aged children in total population in Mongolia has been rapidly increasing year by year. As stated in statistics, 10.6% of the total population was children aged between 0-4 and 8% of those was children aged between 5-9 in 2010 [2].

60.1% of the total number of children aged between 2-6 is involved in kindergarten while rest of them are growing in hoome with parents or grandparents [3].

Within the framework of “Development Research to Empower All Mongolians through Information Communications Technology” (DREAMIT) project which supported by the International Development Research Center (IDRC), Canada, the sub-project called as “Using OER to improve parents’ knowledge and abilities to work with early aged children” has been implemented by Educational Wave NGO for 14 months (May 2011 – July 2012).

In the project, we used term as “early aged children” which considers children aged between 0-8. In addition, we have selected parents and teachers who work with above-mentioned age group of children as a target group.

The most effective and cost saving method to improve parents and teachers abilities and knowledge when they work with their children is to laid foundation and develop OER in Mongolia which has vast territory.

One. OBJECTIVES OF THE RESEARCH AND ITS PROBLEM

1.1. General Objectives of the Research

Main objective of the research was to study the behavioral influences of parents and kindergarten and primary school teachers when they use and adapt early childhood education learning materials from open educational resource (OER) repositories worldwide, localizing them to the Mongolian context, and making them freely available for use by kindergartens, schools and parents.

The following activities were implemented within the framework of the above mentioned general objectives.

- To determine the difficulties and challenges faced by Mongolian parents in working with their early aged children.
- To research and review suitable existing materials from OER repositories that can be localized to help Mongolian parents work with their early aged children.
- To identify models and learning materials for localizing preschool and 1st and 2nd grade curriculum for primary schools.
- To assess and measure improvements occurring in parent-child interactions as well as the improvements in early childhood education practices as a result of utilizing the ‘new’ OER derived materials.
- To identify changes and impacts in teaching methodology of kindergarden and primary school teachers of grade 1 and 2
- To induct and train research associates in design-based research [DBR] methods
- To create applications for OER website that facilitates interactive information sharing and to establish an OER database that contains information of a wide variety of topics that are interest of parents and teachers.

Research has been done in 3 phases.

- a) Baseline research
- b) In-depth research
- c) Research of OER influence on www.davlagaa.mn

In each research had its own specific objective.

1.2. Objective of baseline research

Objective of baseline research was to identify parents, kindergarden teachers and 1st and 2nd grade teachers’ knowledge and skills in working and interacting with their children and to determine what problems they have, what skills and knowledge they want to gain or obtain. Within the framework of this objective, aims to be carried out can be identified as follows:

- Determine what barriers and challenges parents and teachers face and what skills and knowledge they want to obtain in order to work and interact with their children
- Identify skills and knowledge of parents to work with their children in observation way
- Study how teachers develop curriculum and how it can be used
- Make a conclusion on the result of research and identify key issues to be considered during the process of project implementation

1.3. Objective of the in-depth research and its problem

Specific objective for the 2nd period of the research was to make in-depth research on 2 main issues including reasons on kindergarten seems like a school and homework is considered as a difficult for parents who have 1st and 2nd grade students. These issues have been identified from previous research according to the Design-based research [DBR] method.

a) Why kindergarten getting similar to the school?

During the implementation of the project, it has been clearly observed that kindergarten's teachers, who involved in project, had paid more attention on how to "let students to learn" when they conduct daily activities and develop curriculum. Thus, the question as "Why kindergartens' teachers prefer "lessons" to other activities when organizing daily activities and developing curriculum of the kindergarten" has been raised. We considered that this issue needs more detailed and in-depth research work because that question has been attracting our attention. Main objective of our research was to identify why teachers have reached to that situation.

b) Research on Homework of 1st and 2nd grade pupils

Objective of the research was to identify what problems facing with parents and children when they do homework, how teachers give homework to the children as well as make observation on attitudes of teacher and parents and children on homework.

In few years ago, age of the current 1st and 2nd grade pupils were a similar to age of children who should involve in kindergarten. The Mongolian secondary school system underwent major reform, replacing the 10 - year program with an 11 and 12- year. With this regard, the most influentially and potentially problematic changes of the educational reform occur among pupils in 1st and 2nd grades or 6-7 aged children.

To see previous research, it has been clearly seen that homework makes more difficult for parents who have 1st and 2nd grade pupils as well as even for children. To do so, children have been getting fed up with and tired. Thus, we considered that it was needed to make some in-depth researches on Homework.

1.4. Objective of the Research of OER influence

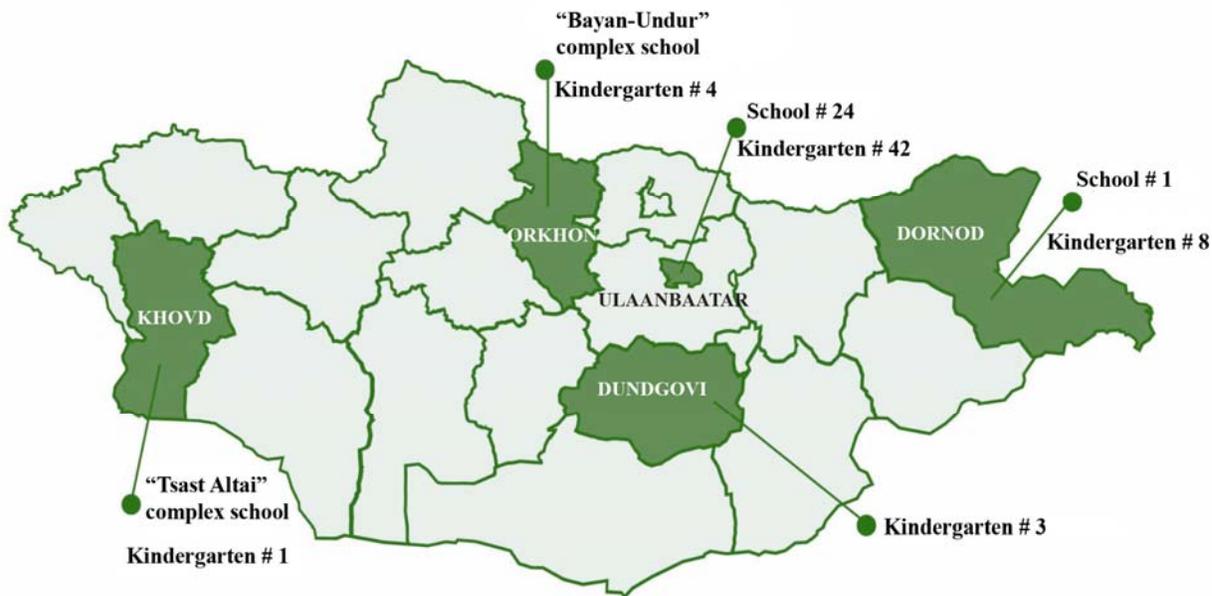
A numbers of OERs have been posted on our www.davalgaa.mn website since project started. Main objective to post those OERs in the past was to make a survey to measure how OERs on the website make influence on parents and teachers' knowledge and abilities to work with children.

Two. RESEARCH METHODOLOGY

2.1. Selection of the target group

Although we have been posting information on website freely for all parents and teachers who are visiting our website, teachers from 5 kindergartens and the 1st and 2nd grade of the 4 schools as well as 40 parents have been selected to involve in our project respectively. We tried to

select participants from all around the country as selecting parents and teachers to be involved in project. Because Mongolia is with vast territory and each region of it has natural characteristics.



Thus, we formulated research methodology as selecting 8 parents and teachers from 1 kindergarten and 1 school (1st and 2nd grade) from the each aimag including capital city (Ulaanbaatar), eastern region (Dornod province), gobi region (Dundgobi province), central region (Orkhon province), western mountain region (Khovd province). Selecting parents and teachers with different ages of children from various regions can be more effective for scaling up in case of project will be successfully implemented.

Main requirement for teachers was to have possibility to use internet. As of parents, main requirements were to have possibility to use internet and got email address and have an attention to their children' care and development.

With purpose of getting more information, we involved more 52 parents in baseline research who have children aged between 0 - 6 and the 1st and 2nd grade pupils from Ulaanbaatar and other aimags except for parents to be involved in project.

2.2. Methodology of the research

Methodology of our resarch was based on Design Based research.

2.2.1. Methodology of the baseline research

In baseline research, we used the following research methodologies such as questionnaire, test, document and interview.

Within the framework of research solving problems, the quantative and qualitive approaches have been used. In this regards, we have developed questionnaire and test for gathering

necessary information. For example, *Questionnaire for parents*, *Questionnaire for kindergarten teachers*, *Questionnaire for teachers with 1st and 2nd grade students*, *Tests for parents*. In addition, some issues have been clarified as making interview with parents and teachers.

We used document research method when making baseline research on how teachers develop curriculum and how it can be used. Project team members made analysis and conclusion on curriculums of school and kindergarten as a result of receiving copies of some curriculums which have been formulated and used in academic year 2010-2011 by kindergarten and school involved in project.

According to the 6 packages including topic, objective, content, methodology, teaching aid and evaluation, we developed 13 and 16 indicators for analysis on kindergarten and school curriculum respectively.

2.2.2. In-depth research methodology

Within the framework of In-depth research, we used some methods such as questionnaire, interview, essay, observation and document research.

2.2.2.1. Why kindergarten getting similar to the school?

We have planned to conduct research in 2 ways in order to carry out research objective. Firstly, document research on official documents, which developed, by policy makers who are people in charge of the early learning issue will be done. Secondly, an observation on how teachers work with children and what methods they use in the class and interview with kindergarten's teachers will be made.

a) Document research

We have chosen the following 2 official documents for our document research.

1. *Development standard of early-aged children*, 2011, the Authority of Standard and Measurement [4]

In order to make a document analysis, we have identified the following criteria to be considered.

- ✓ Structure
- ✓ Pedagogical concept and the image of the child
- ✓ Objective and principles
- ✓ Meet with age characteristics of children
- ✓ Whole child development and areas of early learning
- ✓ Whether implementing way (who, how and what ways to be used) indicated or not

2. *Policy of pre-school education*, 2009, Ministry of Education, Culture and Science

In order to make a document analysis, we have identified the following criteria to be considered.

- ✓ Structure
- ✓ Concept
- ✓ Objective and its principles
- ✓ Main content
- ✓ Possible influences on teachers

b) Research of kindergarten's lesson

We have planned to make research of lesson as follows:

- ✓ Number of lesson taught in the kindergarten, its length time
- ✓ Participation of children in the lesson (reaction, response and discussion)
- ✓ Interest, effort and needs of children who take part in that activity
- ✓ Teacher's preparation and its management

2.2.2.2. Research on homework of 1st and 2nd grade pupils

We have developed questionnaires that to be taken from parents who have 1st and 2nd grade students and teachers with 1st and 2nd grades in order to make in-depth research on homework. For instance, Questionnaire for parents "Homework", Questionnaire to teachers "Homework", Homework notes to parents.

2.2.3. Research Methodology of OER influence

The research methods on effectiveness of the website was questionnaire and online discussion.

We have developed questionnaires that to be taken from parents and teachers with purpose of observing whether OER materials on www.davlagaa.mn website influenced on knowledge and abilities of parents and teachers when they work with early aged children. When developing questionnaire, we have provided parents and teachers with possibility to answer question easily and send them by online.

With purpose of making an observation on how OERs on www.davalgaa.mn website make influence on parents and teachers abilities to work with children, we have made online discussion with parents from Orkhon provinces and kindergarten and school teachers from Khovd, Dundgobi and Dornod provinces.

Three. RESEARCH FINDINGS

3.1. Result of the Baseline research

According to the baseline research, we developed test and questionnaire for parents and teachers and combined its outputs. In addition, conclusion has been made after making curriculum analysis.

3.1.1. Research result among parents and teachers

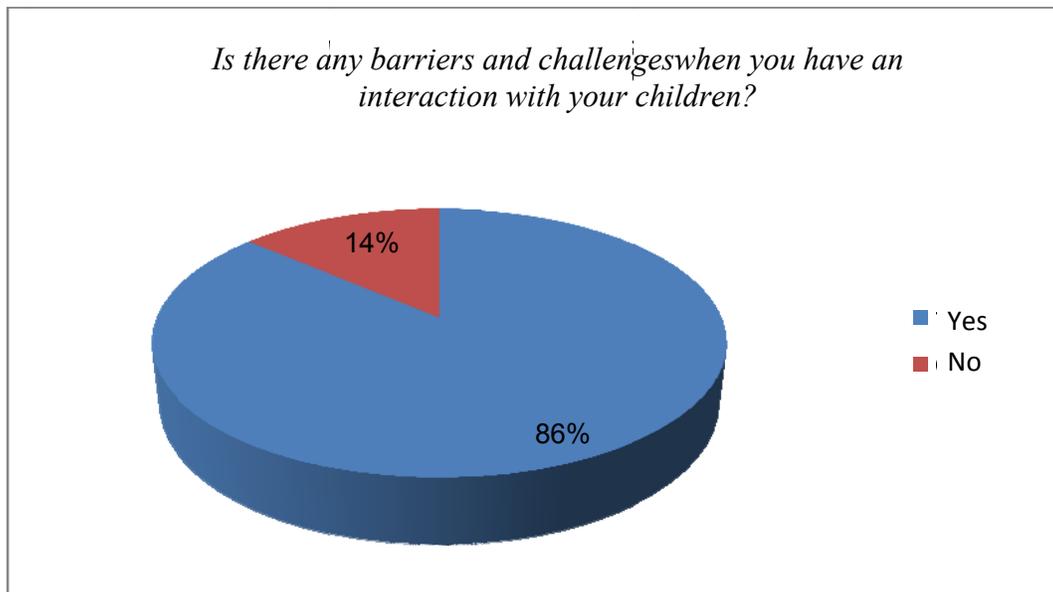
Total 92 parents and 81 kindergarten and school teachers were involved in questionnaire as well as 40 parents of those, involved in test.

a) Questionnaire result for parents with pre-school aged children(0-6 years old)

Total 60 parents including 52 mothers and 8 fathers aged of 21-46 have involved in questionnaire from Ulaanbaatar and Khovd, Orkhon, Dornod, Dundgobi province.

To question on what main problem or constraint do you have when using internet in order to get useful information for parents? Parents answered as follows: 1. *Language barrier*; 2. *there is very few materials are posted in mother language*; 3. *spend a lot of time to search useful information*; 4. *Information for parents is not popular*.

Most parents involved in research answered that certain barriers and challenges being faced in order to detect their children' behaviors.



Barriers and difficulties for parents:

- ❖ They do not know about whether it is right or wrong
- ❖ Explain whether it is dangerous and wrong
- ❖ They always ask question
- ❖ Change caprices of the spoilt child
- ❖ Determine spoilt child's behaviour
- ❖ It is difficult to interact with toddler because they can not speak well and express their ideas completely
- ❖ Interact with stubborn children
- ❖ It is difficult to answer to their question.
- ❖ Interact children who is too much active and naughty
- ❖ Interact with recalcitrant child
- ❖ I do not know what should I do when my child beats up or bites someone

- ❖ Interact with children who always cry
- ❖ I do not know what should I do when children make mistakes again however I have explained about his mistake

According to the research, parents (5%) responded as children are very sensitive to be sick while most parents (68.3 %) responded as children are sensitive to be sick for sometimes.

Parents mentioned the following sicknesses are more common in despite of children's ages and months. Respiratory diseases (cough, running nose), Headache, Stomach, Brain pressure, Pneumonia, Allergy, Rachitis, Toxemia, Toothache etc.

The following list has been made when we were prioritizing necessary information to be posted on Internet in further.

1.	Information on age and psychological character
2.	Recommendation on methods how to interact with children and how to effect on children's behaviour
3.	Information on how to grow healthy children and how to care children
4.	Recommendations and experience from other parents
5.	Recommendation on how prepare children to be good pupil
6.	Methods and tools to play with their children
7.	Recommendation on how to allow children having good behaviour

The following recommendations have been made as a result of making interview with parents at the same time with conducting research.

- ✓ Create a forum on which parents can exchange their ideas and experiences
- ✓ Broadcast TV programs related to the children's care and development regularly
- ✓ Advice on phone and/or face to face meeting are needed when a certain information is required.
- ✓ Information on feeding and children's mail

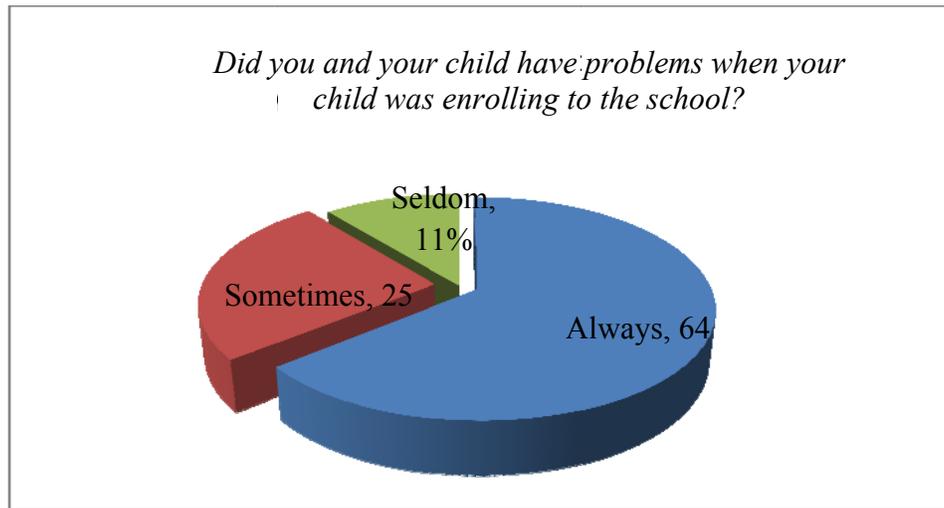
b) Questionnaire result for parents with children just finished its 1st and 2nd grade

In this research, total 32 parents have involved from the Dornod, Orkhon, Khovd province and Ulaanbaatar and from which 9 were fathers and 23 were mothers aged of 28-48 years old.

The following answers have been given when we asked question like "What is the problem do you have when you getting information for parents from the Internet?" – *Time consuming for searching information, - lack of information written in mother language, - Lack of materials designed for parents, and – language barriers to be faced to get information from materials in foreign languages.*

According to the research 77 % of the total parents have agreed that the internet is the one of the good ways to overcome problems to be risen when working with children.

In research, 89% of total parents involved in research have answered that problems have been risen when children were enrolling to the school.



Problems among parents as follows:

- ❖ Doing homework is difficult. Thus, children getting fed up and tired when they are doing home work.
- ❖ Parents can not provide enough support to their children's study
- ❖ Children were spending a lot of time for adapting to the school
- ❖ Children had tired due to the high pressure of study
- ❖ Children were showing inactive attitude
- ❖ Children can not pay its attention into something
- ❖ Children were showing spoiling attitude
- ❖ Children were not writing and reading properly
- ❖ Developing intellectual ability was difficult
- ❖ Many things I do not know about how to develop children properly
- ❖ There was lack of independence when allow children to socialize
- ❖ Deliever and pick up children from the school is one of the problem

Research shows that 75% of total parents cannot provide their children with good support when doing their homework.

Over half of parents involved in research, answered that they have had healthy issues. Particularly, it will be easier to get children tired due to the high pressure. Therefore, it is difficult to manage children's pressures properly. Sickness/diseases including cough, toothache, eye-sight problem, icterus and fatigue have been mentioned by parents.

The following list has been made when we were prioritizing necessary information to be posted on Internet in further.

- ✓ Advice on how to help children to be learning successfully
- ✓ Methods and recommendations on how to develop positively interact with children
- ✓ Post games and crosswords and pictorial puzzle on website

- ✓ Scientifically simplified movie and video
- ✓ Interesting exercises to be done together with their children
- ✓ Information on development of children and its age characteristics
- ✓ Interesting story and articles designed for children

c) Questionnaire result for kindergarten teachers

Total 48 teachers have involved in research from the Ulaanbaatar and Khovd, Orkhon, Dornod and Dundgobi provinces.

Teachers answered that selection and development of daily lessons and other activities' content take a lot of time. The following list was piroritized from teacher's work which takes a lot of time.

- ✓ Selection and development of content
- ✓ Developing methodology
- ✓ Identifying objective and aims
- ✓ Preparing teaching aid

They have answered that the most difficult thing is *to find materials* which can be used directly to the question as "What problem are you facing with when using materials from the internet in order to develop curriculum?". After that, they mentioned the following problems including *time consuming in order to search information, lack of materials in mother language and language barrier*.

The following list of information were piroritized from the most important one.

1.	Theory, methodology and psychological information
2.	Didactic materials for curriculum development
3.	Game and gaming approaches
4.	Ways and approaches to prepare teaching aids in simple way (by using materials that can be found easily)
5.	Video lesson for teachers
6.	Advice and recommendation on how to work with children
7.	Video for children
8.	Experiences of teachers
9.	Advice and recommendation on methods to work with parents

d) Questionnaire result for teachers with 1st and 2nd grade pupils

Total 33 teachers have involved in research from the Ulaanbaatar and Orkhon, Khovd and Dornod province. Those teachers have had 1st and 2nd grades in academic year 2010-2011.

50% of total teachers have answered that preparing teaching aid takes a lot of time to the question on "*Which part do you spend a lot of time as developing unit lesson's curriculum?*". Then they have piroritized them as follows according to the time comsuming.

- ✓ Prepare teaching aid
- ✓ Develop evaluation
- ✓ Develop methods
- ✓ Identify curriculum needs
- ✓ Select and develop content
- ✓ Identify objective and aim
- ✓ Identify scope
- ✓ Develop time management

62% of total teachers have answered as “Yes” to the question whether internet can be used as developing curriculum?

To the question on what problems do you have if you use internet as developing curriculum and preparing for lesson?, teachers have answered *as language barrier* is one of the difficulties. The next problem was *time consuming to search information* according to the their answers. The third problem was *lack of materials* which can be used directly from the internet. Then *few materials are available in mother language* that was mentioned as forth problem.

Teachers mostly mentioned as didactic materials for curriculum development are needed urgently when we were asking question “*What types of materials do you need to post on internet?*” Then we made priorities according to the teachers’ answers as follows.

1.	Didactic materials for curriculum development
2.	Video to be used for lesson
3.	Teachers’ experiences
4.	Learning theory, methodology and information on psychology
5.	Methods and recommendations on how to interact with children
6.	Approaches for teaching aid preparation
7.	Video materials for teachers
8.	Recommendations and methods on how to work with parents

e) Test result of parents with pre-school aged children (0-6 years old)

The purpose of taking test is to identify parents’ skills and knowledge on development and age characteristics of children. Questions 1-8 were designed for detecting knowledge of parents, 9-11 were about parental skills on how to develop their children and their attitudes in working with their children. (Please see more information on test results from the quarterly report I)

As a result of the test, knowledge and skills of parents are calculated as 50.4%. It shows that supports and assistances have to be needed to parents when they working with their children.

f) Test result of parents with children just finished its 1st and 2nd grade

The purpose of taking test from parents whose children have just finished 1st and 2nd grades is to identify parental knowledge and abilities to work with their children in exploratory way. Questions 1-7 were about knowledge and questions 8-11 were about parental abilities to work

with children and their attitudes. (Please see more information on test results from the quarter I report)

As a result of the test, knowledge and skills of parents are calculated as 57.9%. It shows that supports and assistances have to be needed to parents when they working with their children.

g) Conclusion

We have made a conclusion in end of each questionnaire and test result. Thus, final conclusion is being made in here briefly.

- ❖ Both parents and teachers are lack of knowledge and skills in working with children in proper way. But they have strong desire to know about their early aged children' characteristics and to influence positively on their children development.
- ❖ Positive changes will be shown on parents and teachers abilities to communicate and work with children if required and useful advices and learning or teaching materials will be posted on website in Mother language.
- ❖ To see the result of the survey, the most difficult task for parents is to make a homework with their children together. Also, there are lot of pressure on 1st and 2nd grade pupils.
- ❖ Parents and teachers have agreed that Internet is the one of the best ways to solve problems to be risen when working with their children.
- ❖ Parents and teachers expressed that they are ready to use materials and information to be posted on our website if we will translate and localize necessary advice and information on early aged children' characteristics and development, learning effective approches and various types of teaching aids from the other open websites. In addition, they want to share their ideas and pressing problems with each other by using internet.

3.1.2. Outcome of curriculum analysis

We have analyzed and combined the output of 99 school and kindergarten curriculums in the province and city, which involved in our project. In terms of kindergarten curriculum, there were variuos types of curriculums such as *annual curriculum, topic- based curriculum, curriculum of daily lessons and other activities, of schools annual curriculum, package lessons curriculum, unit/daily lesson curriculum.*

a) Analysis on kindergarten curriculum

On positive side:

- ✓ Objective and goal of the curriculum considered all sides of the children development. For example, children health, behavior, communication, habits that should be obtained and its surrounding places.
- ✓ It is oriented to the pre-school educational standard. But, objective and content of it might be difficult to use in above mentioned age of children.
- ✓ Topics of the curriculum were selected from the surroundings of the children.

- ✓ Curriculum content of an academic year was designed by quarter and each topic.
- ✓ Topics are easy to understand and simple.
- ✓ Some kindergartens decided to work on 1 topic for long time.
- ✓ Objectives of some lessons and other activities were formulated as simple and understandable.
- ✓ Schedule of the daily activities were planned properly.
- ✓ Selection of the learning tools, which are used in a class and other activities, were good.

On negative side:

- ✓ Objective of the curriculum is too general and not clear to understand.
- ✓ Curriculum seems like school curriculum as well as it does not consider on special characteristics of the children development.
- ✓ There is no evaluation system to make an analysis on whether the curriculum is developed effectively or not.
- ✓ Teachers give more difficult task to children when children are evaluated. Evaluation is more focused on homework and tasks. But there are not many evaluation methods for children development.
- ✓ Objective and goal of the topic is not oriented to annual curriculum. Formulation of objective and goal is not complete and logical. (Academic year>>> topic >>> lesson\activity).
- ✓ Content of some lessons are difficult to understand and its importance is low.
- ✓ Some kindergartens planned only 1 lesson according to the 1 topic.
- ✓ There is no integrated activities to develop children within one topic.
- ✓ Procedure on how to teach and organize lessons and those other activities was not planned as well as it was too general. Lack of creative work in curriculum development. Curriculum mentioned only about what you should do rather than how to do it. For example: drawing, discussion and writing etc.
- ✓ Curriculum said that learning tools should be used in each lessons or other activities, however, it did not say when and how those tools should be used.

b) Analysis on school curriculum

On positive side:

- ✓ Curriculum development was based on Educational standard and National program on primary education. Education and culture authority provides for curriculum development with recommendation and management.
- ✓ Within the framework of group topic, progress of the pupils is evaluated and improvement ways of curriculum development is identified. (Dornod province).
- ✓ Content of curriculum was developed properly. (Khovd province)
- ✓ Curriculum had an hour for lesson elements as well as learning tools to be used in a class was chosen. Selection of the task, question and homework was based on known items of the children.

On negative side:

- ✓ Most of the curriculums have not evaluation system or methodology for outputs.
- ✓ There was not distinguished feature for curriculum of local school.
- ✓ Curriculums of local schools do not have special characteristics in methods, objectives and contents. Most of them duplicated everythings stated in National program.
- ✓ Lack of plan on how to implement objective and goals of the curriculum
- ✓ Formulation of content, goal and objective of curriculum is not good.
- ✓ Checking homework is not creative. Also, teachers give uncreative homework to the pupils.
- ✓ Teaching methods do not have creative methods except for question, response and games.
- ✓ Curriculum has somewhat methods that support communication between children and their activeness but those are not good enough.
- ✓ Majority of school curriculum have not evaluation plan. In a few cases, they planned homework but those were uncreative.
- ✓ Teachers do not have enough knowledge on how to evaluate pupils.

c) Conclusion on curriculum analysis

- ❖ However it's been a decade that teachers attempted to develop the curriculum by themselves and accumulated experience. However, curriculums they developed were not met with international experience and other requirements. Hence, teachers need to have support as well as opportunity should be provided to kindergartens and schools for developing their own curriculums dependently.
- ❖ Kindergarten principals, teachers, and researchers should have a common thought on what curriculum must be effective for preschool children and favor for the teachers without any pressure. The different perspectives or angles should be significant. Kindergarten teachers mostly copy the school curriculum.
- ❖ To see from the curriculum analysis, evaluation on curriculum and improvement of children development process are still at poor level. Based on this indicator, we can make a conclusion that there has been no good result since evaluation reform for pupils knowledge and abilities has been introduced in Mongolia for last several years at slow speed.
- ❖ School and kindergarten are lacking of own-designed concept, curriculum content, methodology, and teaching aids which prepared creatively as a result of creating environment for its individual development. To see from the analysis on curriculum, most of the schools and kindergartens are copying its curriculums directly from the national curriculum.
- ❖ The cultural reform including interaction between teacher and students in school classrooms and cabinets is making slowly. The teacher-centered activity is still dominant. There is no favor environment where students can freely involve in the lesson. Lesson still often conducts by the teacher's desire and interest.
- ❖ If we will provide support to the teachers through our website and teachers can make efforts, the curriculum developed by the given school and kindergarten teachers might be model curriculum to others. In addition, it will bring positive impact on the teachers' capability and methodology of curriculum development.

3.2. Result of the In-depth research

Please see the result of the more detail outputs of the in-depth research from the 3rd quarterly report of the project. In below, brief information about the output are being introduced. In later, we have a plan to continue our researches on “Early Learning” and “Homework” for articles that to be published on International Magazines.

3.2.1. Result of the research on “Why kindergarten getting similar to the school?”

This research consists of 2 parts including “Outcome of document research” and “Outcome of kindergarten’s lesson”.

3.2.1.1. Result of the document research

Prior to make analysis on the issue called as “Why kindergarten is getting similar to the school?” we have made analysis on main policy documents.

- a) *Pre-school education. Development standard of early-aged children*, 2011, the Authority of Standard and measurement [4].

Disadvantage of the Development standard of early-aged children

- ❖ There was not clear what pedagogical concept used in order to develop and implement this standard. “The Image of the Child” was not identified.
- ❖ Main idea was: the more development will be done, the more knowledge and ability will be acquired.
- ❖ It did not mention what principles should be followed in order to implement this standard.
- ❖ Quality changes in children development have not been taken into consideration when making age classification of children development.
- ❖ Many requirements that do not meet with children age and abilities have been stated in.
- ❖ Natural behaviors and insights (sense, emotion, interest, willing, trust and effort etc...) of the children have been not considered.
- ❖ There was not clear which activities (lesson or play) were more important for the development of the child.
- ❖ Terms such as “Teach”, “Instruct” and “Acquire knowledge” have been mentioned for many times. Thus, this situation was main rationale to push teachers into lessons and/or to seem children as an “Object”.

- b) *Policy on pre-school education*. Approved by the 20th decree made by the Minister of Education, culture and science in 2007

The following **negative influences** are being raised due to the this legal act.

- ❖ Policy on pre-school education, 2007 have not concept with own feature. It is considered that policy document of pre-school education was doubled from secondary education policy.

- ❖ There are 2 reasons for kindergarten's lessons seem like lessons of the secondary school. First, kindergarten's daily activities are divided into 2 parts including development activities and lessons. Second, criteria to school lesson are similar to kindergarten lesson.
- ❖ Teachers make 2 different curriculums, one for lessons and other for development activities. Thus, they waste much time for that.
- ❖ In practice, there is a schedule for some kindergarten can be divided into 3 parts including lesson, development activities and games. This schedule contradicts with educational and didactic principles. These three should be integrated.
- ❖ As a result of these policies, special teaching methods of kindergarten teachers will never be improved. Adversely, teaching methods of kindergarten teachers seems like more schoolteachers.

Conclusion: In conclusion, current the kindergarten's situation is caused by policy documents in Mognolia.

3.2.1.2. Outcome of the research on kindergarten's lesson

The research has been conducted on 4 teachers' lessons including physical education, art and craft and language at the Kindergarten #42 of Sukhaabatar District, Kindergarten #98 of Bayangol District, respectively.

a) Observation outcome

Advantages:

- ✓ Teachers highly concern class
- ✓ Teachers well prepare lesson tools
- ✓ Teachers have an experience to work with children and their voice tone sounds kind to children.
- ✓ Technical facilities are used in class.
- ✓ Children try to choose interested games and toys.

Disadvantages:

- ✓ Compel children to participate in lesson is common.
- ✓ Some exercise and games are not interesting the children. Teachers prefer what they plan to do instead of considering what the children like to do and their habits, needs and willing as well.
- ✓ Teachers are using some unfamiliar words which are not understandable for children.
- ✓ The way of motivating children is wrong in some classes. For instance, compete to finish drawing etc
- ✓ While children are concentrating on their doings, teachers leave and urge even listening music is reducing the effect.
- ✓ Teachers don't conduct a class tool research and use ineffectively of lesson tools.
- ✓ While team building, a cooperative activity is not good enough and team work is restrained only by sitting together during some class.

- ✓ Lesson period per each class is only 20-30 minutes. But many activities are covered in such short time. It doesn't allow children to express themselves and interact with teachers and others.

Conclusion:

It is necessary to organize a discussion on what is educational environment in the kindergarten; what is an advantage of kindergarten; what is the lesson difference between kindergarten and school; as well as what is curriculum of children development in the kindergarten in order to gather comments and experiences.

3.2.2. Research result of the homework for 1st and 2nd grade pupils

According to the first outcome taken by the parents whose children study at 1 or 2 grade, the most urgent issue is a doing homework. We made in-depth research on that.

3.2.2.1. Outcome of questionnaires taken from parents

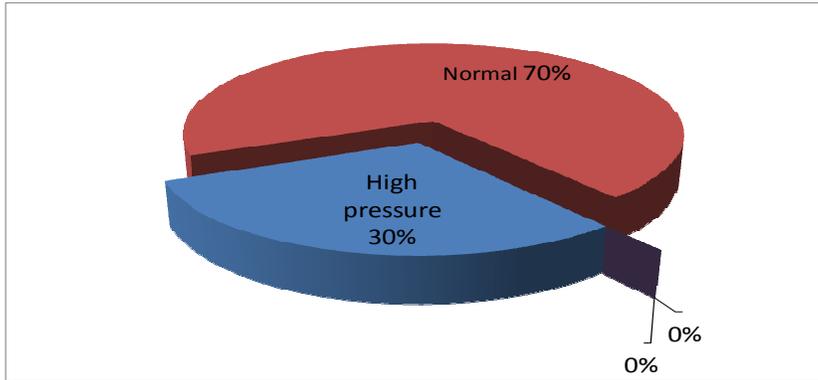
There are 20parents attended in the questionnaire,9 from UB, 8 from Dornod aimag, 2from Orkhon aimag, and 1 from Khovd, respectively. Some parents attended actively. For example, one parent whose twins are studying at 2 grade in acertain school of Ulaanbaatar, told us that how her children do the homework, what difficulties are they facing, and we put her materials on our website.

Parents attitude on homework

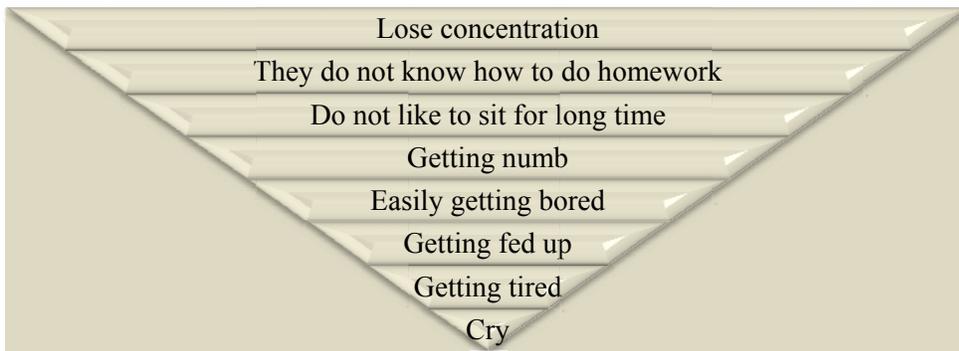
Parents' responses to the question “Does it good way to give homework to the children?”

Questions		Percentage
It does not need. They want to play		5,6 %
Homework should be simple		50 %
Yes, it is correct		44,4 %
No response		
Total		100 %

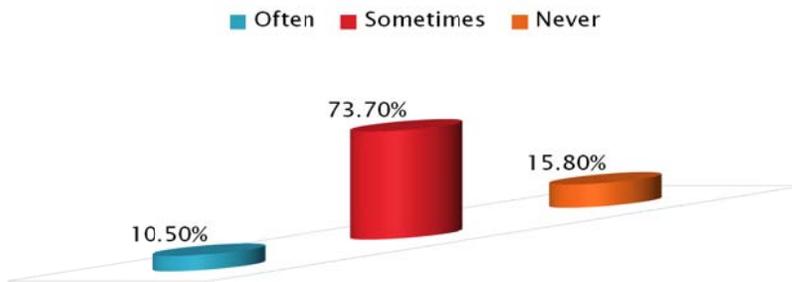
Parents responses to the question about the homework pressure on their children.



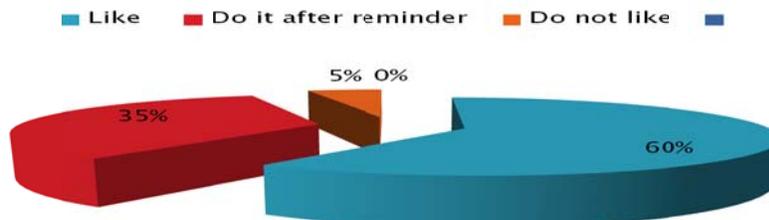
Parents mentioned the following difficulties encountered when they set together to do homework with their children:



Do you get nervous due to the homework?



Children' attitude to homework



Conclusion: To see from the questionnaire, homework is a problem, which poses a difficulty to both parents and children. However parents think homework is important for children, but they would prefer to decrease the homework norm than today.

3.2.2.2. Outcome of questionnaires taken from teachers

In the research, total 23 teachers were involved in. To see the regions of the participants:13 from Ulaanbaatar, 9 from Dornod province and 1 from Khovd province respectively. As of the teachers, 10 of them were teachers of the 1st grade class, and 13 of them were teachers of the 2nd grade class.

According to the questionnaire, 83% of the teachers responded that giving homework and checking it is good way to improve learning.

Teachers have answered as follows to the question “Do you give homework in each lesson a day?”:69,6% of the total teachers give homework on each lesson a day while 30,4% of them give homework for sometimes.

Generally, teachers give the following homeworks which executed by actions such as calculating, reading, writing etc.

Actions	Vote number
Thinking	21
Reading	21
Writing	18
Learning by heart	6
Creating	2
Drawing	1

Spending time for homework is calculated by teachers as follows. *(But in real life, parents answered that their children spend around 2-4 hours a day for homework)*

Period	Percentage
--------	------------

30min	30,4%
30min - 1hour	43,5%
1hour- 1hour30min	13,05%
1hour 30min- 2hour	13,05%
Total	100%

Conclusion of the current situation of homework from teachers' side:

- ✓ They have to do homework in every day.
- ✓ Giving homework on math and Mongolian is compulsory.
- ✓ Teachers agree that giving homework is one of the effective factors to improve learning ability.
- ✓ It is general that teachers do not consider on how much time children have to spend for homework.
- ✓ Making evaluation on homework makes children more uncreative.

3.2. Outcome of the Research of OER influence

3.3.1. OERs posted on www.davalgaa.mn and its developing ways

Principles

The below principles have been followed when developing OERs:

- ✓ *Meet with user needs based on research* (Help parents and teachers to solving problems facing with, Ex: 6 materials on homework have been posted on website)
- ✓ *Consider own tradition and country situation as localizing OERs* (Begining = questions, problems or practical example from Mongolian parents and teachers side >>> Scientific explanation = get and use OERs from foreign websites >>> Advice = OER + traditional experiences)
- ✓ *OER should be useful and good quality* (parents and teachers should get a idea or knowledge from each materials as well as it should be provide with direct use

>>> Increase website reputation >>> people want to post materials >>> participation raise)

- ✓ *Develop OERs together and help each other* (this idea has been shown in teachers' papers and in comments)
- ✓ *It should be easily used for users* (For example, user's page: post materials by themselves, write down children' words, create group for work together)

Types of OER

We developed 2 types of OERs and posted on our website.

- ✓ Photo and text materials
- ✓ Video materials

Ways of photo and text OERs development

- *By ourselves*: Now we are in lack of open website for parents with early-aged children and kindergarten teachers. We developed the OERs after making analysis on many researches and materials. In other words, a number of recommendations and materials for parents and teachers who work with early-aged children were developed and posted on our website. In addition, we published "Deciding age" handbook based on above-mentioned OERs. This "Deciding age" handbook has been posted completely on our website as open resource.
- *By teachers*: At the beginning, qualities of the OERs were not good as a quality. (They did not mention about source; they made a copy and paste of other people' papers and photos, no clear methodologies as well as too general)

With regard to the above-mentioned situation, we decided to consider the following things.

- Should be useful for others
- Use materials from websites with Creative Commons (CC) mark
- Should be its own material
- Should make footnote if you get an information or data from other source

In later, quality of the teachers who developed OERs were improving. Teachers developed and posted (www.davalgaa.com) 33 videos, 42 training materials in types of photo, chart, text. But there were variety on quality side.

Developing ways of Video

We used 3 types of tools for video development.

- **We started to make video through the following steps**
 - Select videos which will be localized from open websites
 - Translate text from English into Mongolian

- Edit Mongolian text and make it understandable to Mongolian teachers (terms, exercise, example)
- Edit sounds by professionals
- Make montage
- Upload to YouTube
- Download from YouTube and post it on website >>> *many*

steps/transmissions and costly

○ **Option # 1**

- Teachers from School # 24, capital. They got idea from *khanacademy video and* made 8 video recordings.
- Teachers from Kindergarten # 42, Capital also made 7 video recordings according to the “Mini tools” methods

>>>steps/ transmissions are fewer

○ **Option # 2**

- Team from Bayan – Unkdur complex school in Orkhon province, made video recording of lesson on “Water is life” I, II, III and submitted them.
- At the beginning, Kindergarten#8 in Dornod province submitted us videos on “Hello” and “Good morning” but their quality were very bad. After that, they submitted next videos on “Thank you” and “Sorry”. It was clearly seen that teachers’ abilities to work with children and communication skills were improved as well as quality of the videos were better than before. Posted on website. Can you compare with them?

>>>more focused on their experiences

We consider that each of the above-mentioned tools can be used for video development.

Conclusion for OER Development

1. Parents and teachers should easily use photo and text materials. Small tools and detailed methods are appropriate for that. Use them when teachers develop their curriculum development or other activities beside lessons, it is open for them in which topic they will use.
2. Videos should be very short (about 5 minutes), focused on one topic.
3. Apart from localizing international open websites, parents and teachers experiences should be more considered.

As times went by, we have been learning how to develop OERs by step by step.

Research outcome conducted among parents

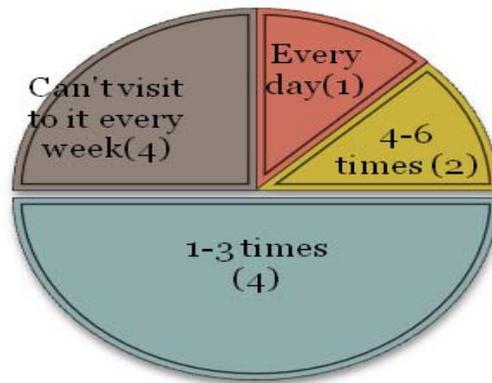
To the evaluation whether the information on the website meets with the parents' needs and the information demand needed to be posted on the website and observation of people views on the website they have been carried out among the parents taking part to the project.

a) Result of the questionnaire about our website from parents

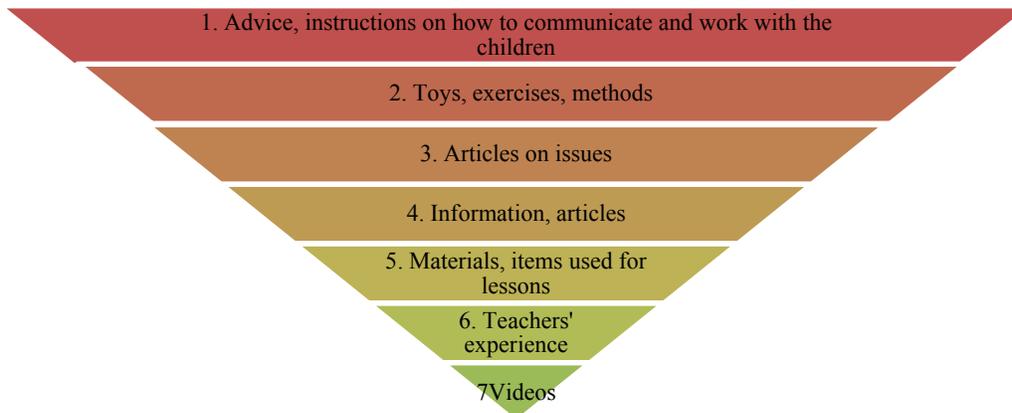
11 people involved in this research. They were 4 parents from Dornod province, 2 from Orkhon, 2 from Khovd and 2 from Ulaanbaatar. Regarding the age of their children: parents with a children in the 1st grade -3, those in the 2nd grade -4, and 4 parents with preschool aged children.

See some questionnaires from them as an example.

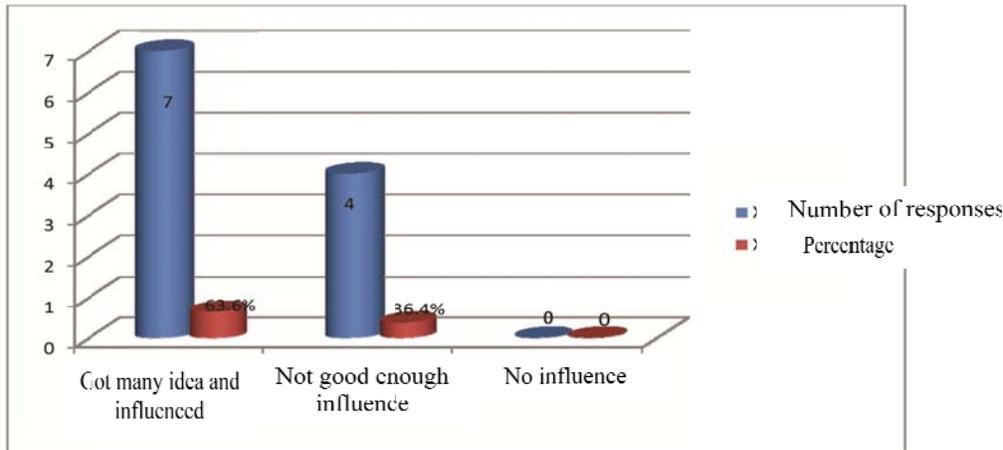
Pie chart shows that number of times parents are visiting to website a week.



Below chart shows that prioritized list of information on the website from the most useful by parents.



Parents responses to the question: How changes showed in your knowledge and ability to work with children as using OERs on website?



c) Result of online interview

We organized conference call with representative of the parents from Orkhon province and talked about the effectiveness of our website and its use. There were 6 parents involved in the online interview, of those, 3 parents have 1st and 2nd grade pupils and 3 of them have preschool-aged children respectively. In addition, we made an interview with some parents from the Ulaanbaatar. Most of the participants said that they had feel many positive changes by using our website and reading “deciding age” handbooks. They mentioned also that they were becoming patient and trying to undertand their children they work with them.

Conclusion: Parents that have participated in the project were satisfied with the OER materials on website. Findings show that participation at the project had a positive influence on parents’ educational knowledge and abilities.

3.3.2. Research outcome conducted among teachers

The research was conducted to gather information on whether the website www.davlagaa.mn provides required OERmaterials; meets the teachers’ needs and possible additional information.

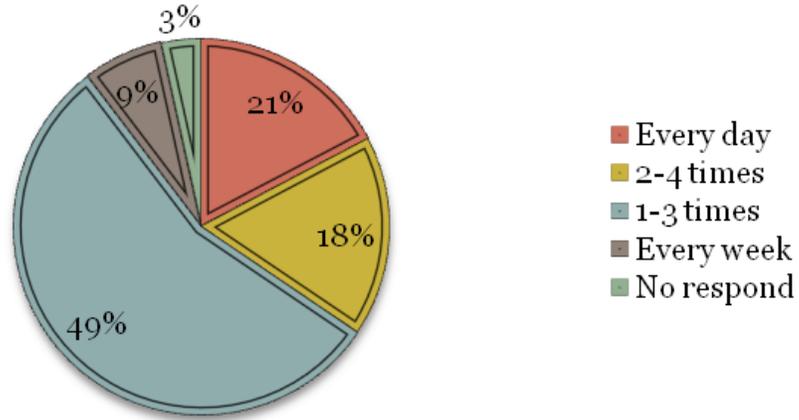
a) Result of the questionnaire about website from teachers

Totally 33 teachers involved in this research. They were 14 teachers from Dornod, 13 teachers from Orkhon, 5 teachers from Dundgobi province and 1 teacher from UB respectively.

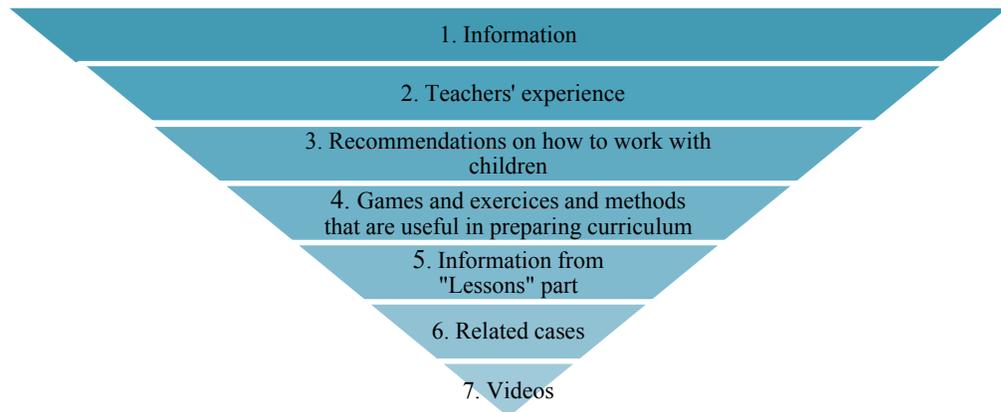
Most of the participants have answered that structure and usage of www.davlagaa.mn website are simple and easily understandable.

See some questionnaires from them as an example.

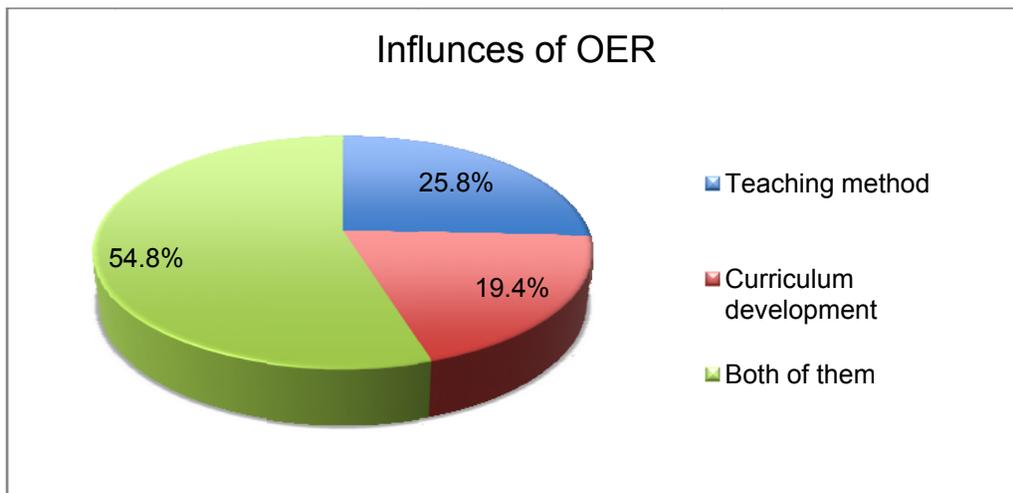
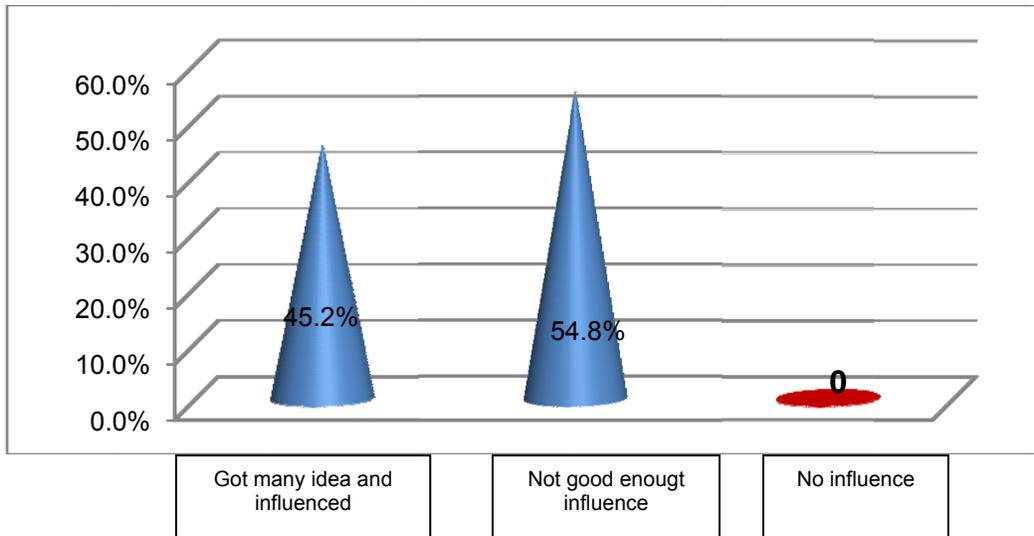
Pie chart shows that number of times teachers are visiting to website a week. Most of the participants visit the website 1-3 times a week.



Below chart shows that prioritized list of information on the website from the most useful by teachers.



How changes showed in your knowledge and ability to work with children as using OERs on website?



b) Result of online interview

With purpose of identifying what is the website usage and its effectiveness, we organized online interview with school and kindergarten teachers from Khovd, Dundgobi, and Dornod respectively. Total 34 teachers were involved in.

Teachers said that they were very happy to use www.davalgaa.mn and other posted OERs as well as many positive changes have been shown in working with children and developing curriculum. In addition, they were motivated to have an opportunity to develop and post their own OERs.

Conclusion:

- ❖ Teachers have positive views on OER materials on the website and its structure. Majority of teachers consider that information on the website could provide their needs.

- ❖ Using website can make influence on their teaching skills. In addition, current method to share information with each other through e-mail and to leave a comment on website can be efficient for them.
- ❖ To see the use of video materials, not many parents use videos which posted on website. We think that main reason of this is caused by quality. Thus it is necessary to improve the quality of the videos.

Four. PROJECT MANAGEMENT

4.1. Activities to be implemented

In order to conduct the project activity effectively, the following activities have been carried out.

a) Daily activities and quarterly report

First of all, the contract draft has been developed to sign with project team members. The contract was signed to agree the terms of reference.

We are in contact with relevant officers in charge of preschool and primary educational issues at the Educational and cultural authority in the targeted provinces and district from Ulaanbaatar. We have provided them with recommendations and management on submission of their copied curriculums, selection of parents and teachers from school and kindergarten and questionnaires.

I cooperated with research team members and developed questionnaire and test for parents with early aged children and teachers from school and kindergarten. Also we always provided guidelines and recommendations on conducting research and combining the outcomes. We have arranged meeting with Batpurev, who is consultant of the project from mongolian side, for several times and took his recommendations for conducting questionnaire, updating website and writing report.

Within the framework of project, we have desgined an action plan and organized daily activities. For instance, prepare website documents to be posted; translate foreign videos; editing sounds and upload in the website; give advice and comment on documents of OER that will be received from teachers of schools and kindergartens involved in the project; combine all comments and advices and send them to the teachers; upload some good OER advices on our website; organize research team meeting and interviews; develop and conduct questionnaire; conclude questionnaires to be conducted, make screen working reportby each member of project team, and pay for relevant payroll job etc...

We made a detailed plan by each quarter. Also we developed quarterly reports of the project on August, November 2011 and February 2012 and submitted them to the DREAMIT. So far, we are working on final report of the project.

b) Organized workshops

During the project implementation, we organized Front-end workshop on October 2011 and Wrap-up workshop on July 2012 in Ulaanbaatar, Mongolia respectively. In each seminar, project

team members, officers in charge of pre-school and primary educational issues from the Education and Culture Authority, selected parents and teachers were participated actively. Please see the attached Agenda of 1st and 2nd workshops.

After Front-end workshop in Ulaanbaatar, local participants came back to their provinces and conducted local workshop among teachers of kindergarten and teachers of 1st and 2nd grade students, parents involved in project. Total 43 teachers of the 1st and 2nd grade students, 49 kindergarten teachers and 39 parents have respectively participated in workshops that have been held on Ulaanbaatar, Khovd, Orkhon, Dundgovi and Dornod provinces.

In addition, David porter, our international consultant, (CEO of Bccampus Canada) participated in these 2 workshops and provided us with valuable advice and guidance. It was great contribution to our work. After the workshop, all participants have successfully obtained information and knowledge on what was the Design-Based Research (DBR); Creative Common (CC) license and its usage and proper description of “Open-Educational Resource” and advice on how to use and develop OER. Our international consultant also gave us to develop and publish articles on international magazines. That advice was good guidance and idea for us.

c) Upgrade of the website

We have successfully completed “web 2.0” technological upgrade to our website for the purpose of providing more opportunities to work together, share lessons and experiences and increase participation for parents, teachers and other users.

By making upgrade, the following advantages have been shown up.

- ❖ Appearance, as for color, design; it was completed upgraded.
- ❖ Improved usage and participation of the user: Added many pages (stage for photo information, page for article and information, page for children speeches, page for articles that written by users)
- ❖ Newly added “Friend network” page on website. To do so, it is now possible to exchange views, broaden their friend’s network and share own knowledge and experience with others.
- ❖ Proper photo and video solutions have done.
- ❖ Now it is possible to open new stage for lessons in which lessons to be developed by teachers will be posted on.
- ❖ On the top of website, floating information has become running.
- ❖ “Peep, Peep forum” page which covers problems facing with parents and teachers of kindergarten and school will be run continuously.

We assume that visiting possibility of users to website will be climbed up **40%** as a result of the technological upgrade.

At the end of the project, accessibility and usability of the our website has been evaluated by 3rd IT company.

d) Facing difficulties

- ✓ We upgraded our website on October 2011. Thus, transferring all documents from old website to new one took almost 1 month.
- ✓ On March 4, 2012, our new website was affected by hacking. Letters like “U”, “O” have been automatically changed to “?” mark as well as end part of the all materials were disappeared due to the hacking. Treatment of hacking took also 1 month.
- ✓ Uploading materials with photo into old website took long time. (This problem has been solved result of new website)
- ✓ Many viruses are received into webmail. Thus, it is necessary to delete all of them as soon as they come in.
- ✓ Kindergarten’s teachers prefer other activities to lesson. Thus, majority of their developed OER materials were about only “Lessons”. It was contradicted with our main concept.
- ✓ In previous, we have planned to contact with parents and teachers who involved in project through e-mail. Then, everyone opened new account. After that, we sent questionnaires to the related people but a number of emails have been automatically delivered back because some e-mail addresses did not work. These addresses might be closed because they did not use e-mail frequently.

e) Website Advertisement

Due to the difficulties faced with, we have not been done nothing for advertisement until April 2012. Since then, we have been actively making advertisements of the website.

For Instance:

- ✓ Published advertisement materials and disseminate them to the public
- ✓ Placed advertisement on Street board
- ✓ Published 1000 posters and delivered them to kindergartens and schools in provinces (End of august, poster will be disseminated to kindergartens in city)
- ✓ Placed website advertisement under “Do myself” topic on magazine.

N.Norjkhoro, Project coordinator, gave 15 minutes interview with the Mongolian National Broadcaster on the subject of “Mongolians’ treatment to the children” and the interview was broadcasted on June 16th – 17th, 2011.

On July 6, 2012, news on Wrap-up workshop have been broadcasted by NTV TV, TV9 and Bolosrol TV to the public. In addition, David Porter, Enkhbat.R, head of Educational Wave NGO, and Norjkhoro.N, project coordinator gave interview on “What is the OER” and “project implementation” to the TVs.

At the same time, information about wrap-up workshop of the project was published on daily newspapers and webistes including “Mongolian News”, “Democracy”, www.time.mn, [assa, toim.orloo.info](http://assa.toim.orloo.info).

N.Norjkhorloo, project coordinator, participated in “National ICT4D Seminar”, Meeting on Open Network for Education (ONE) of Mongolia organized by DREAMIT and she made a speech on project implementation and its outputs.

4.2. Lesson Learnt

- ✓ As for software designed for OERs should be open, free as well as its running instruction likely to be easy to use and change and clear to everyone who wants to use. According to that main principle, we could have used open softwares such as Joomla, Moodle, MediaWiki, WordPress, PhPBB etc. But our chosen software was confronted with “OER” principle because we have programmed our website in ASP language.
- ✓ As for user number, old users have been kept with previous website. As for new website, number of users has been counted from “1”. But all comments written below articles were not able to move completely to the new website. To solve the problem, we have learnt that in-depth research should be done on what software is appropriate and how it can be done before making a final decision on new website development.
- ✓ At the beginning, we were planning to develop OERs only for parents who have early-aged children. But teachers of 1st and 2nd grade and kindergarten teachers were involved in the project while project were approved. In his case, we should have updated our budget for the project. It was our fault. Due to the fault, some expenses were used for different purpose. From this situation, we understood that we have to make detailed budget plan for the project from the beginning.
- ✓ Name of website page should be proper and clear. People were leaving their comments on “Jiv Jiv” page rather than “Forum” page. We concluded that the term “forum” might be no clear for people. Thus, page called as “Forum” has been changed to aged called as “Discussion”.

Five. GENERAL OUTCOME OF THE PROJECT

1. Basis of OER for parents and teachers was established. CC license has been got for www.davalgaa.mn.
2. Capacity building of parties who involved in project has been improved. *(Project team learned about DBR. Not only website operators but also school and kindergarten teachers have learned how to develop OERs that is used for learning environment of early-aged children as well as quality of OERs which developed by teachers was improved. (Representative parents and teachers who involved in project said that it is useful and effective to work with NGO as well as capacity building of NGO was improved.)*

3. Developed and published “Deciding age” book which based on materials on website for parents of 0-6 aged children. This book was very useful and demandable for the Mongolian parents. Handbook has been uploaded as e-book on www.davalgaa.mn website. Users were happy for this book.
4. Recommendation for policy on improvement of early learning framework of Mongolia and on how to use OER properly for learning of early-aged children and capacity building of teachers and teachers, was mentioned. Structure of the recommendation: Current situation in 2012, what is the outlook 2017 and effective measures to be taken.
5. Evaluation on accessibility and usability of website has been made by 3rd company. According to the evaluation, content and usage of website are good but there is some need of doing improvement on design side.
6. People especially teachers are getting to have desire and effort to develop and post their OERs on the www.davalgaa.mn website. The most active page of the website was “JivJiv” because people left their comments and views only on this page.

Some comments of parents and teachers how they consider the output of the project are written in below.

- Result of the project, I had a strong interest in working with NGOs in this sector. (Dundgobi)
- Foundation of OERs already has been laid at pre-school education level. (Dornod)
- Teachers are becoming to use www.davalgaa.com website. By posting OERs developed by teachers were support teachers’ desires to work hardly. (Orkhon)
- Main advantage of the project was good network and relationship. For example: posted lessons were improved by comments that were given by other visits to the website. (Khovd)
- Teachers had become a wide-ranged of knowledge on how to work on information technology. Every teacher had email account and good background to use Internet. Scope of networking was increased. (Dundgobi)
- Project facilitators were very good. Everything that should we do is clear. (Orkhon)
- Khovd province is remote area. But we are now able to get useful information from each corner of the country in spite of location and time. (Khovd)

- Teaching methods of the teachers were improving. On behalf of our kindergarten, 6 teachers were working as a team. Other teachers who not involved in this team had become interest in participate in this activities. (Dornod)
- Teachers learnt about DBR method. As an researcher, I understood that there are many problems we have to solve in pre-school education sector.
- By involving in this project, I have learnt about DBR method. Also as a researcher, I understood that there have been many problems that need to be solved in the preschool and primary education sector. (UB)
- Thanks to the project and website, the status of pre-school education was improved. (Dundgobi)
- This website can play as a bridge between the Government and public. (UB)
- We will work together in further regardless of the project continuation. Because it is very useful and timely work for people. (Dornod)

Six. FUTURE OBJECTIVE

Become a National Open Website – It will be area in which kindergarten an school teachers and parents of early-aged children will improve their knowledge and abilities.

The below mentioned goals should be implemented.

1. Increase number of users including parents, teachers who use OER as a result of public awareness on website and OERs.
2. Increase number of people who use and develop OER by means of conducting training among teachers of kindergartens and schools in capital and provinces that not involved in project.
3. Improve quality of OER to be posted on website as well as many OERs will be developed. In addition, we will post useful and valuable books for parents and teachers on our website as an open resource.
4. According to the evaluation by 3rd IT company, website (www.davalgaa.mn) will be improved.

Seven. CONCLUSION AND RECOMMENDATION

- ✓ Wihtin the framework of the project, the first website (www.davalgaa.mn) with OERs for preschool and primary education in Mongolia has been created.
- ✓ To see the research, it can be clearly seen that OER is the most cost-saving and effective way to improve parents and teachers' abilities and knowledge to work with early-aged children.

In further, the following 2 issues need to be solved in order to create OER in Mongolia officially.

- ✓ Create a legal environment for OER creation in Mongolia. (Apply for “creative common” license at national level as well as issue relevant laws and rules, resolutions)
- ✓ Create financial mechanism to support Government and NGOs that create OERs and meet with users need.

Acknowledgements: We would like to express my heartfelt appreciation to the B.Batpurev, director of InfoCon company, Z.Batbold, project coordinator of DREAMIT and other officers from aimag ECAs and school/kindergarten teachers and management and team members who have worked hard and actively. This project could not have been achieved without the financing by the “IDRC” Canada and support from Maria Ng Lee Hoon, the officer in charge of education issues. Last but not least, we would like to thank all the board of members of the DREAMIT project and David Porter, CEO at BC Campus in Canada for their guidance and support.

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